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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/045,462 | 11/07/2001 | John A. Ewen | 31223-81316 | 2085 |

7590 02/13/2003

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EXAMINER

CHOI, LING SIU

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1713 | |

DATE MAILED: 02/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|---|--------------------------------------|---|
| Office Action Summary | Application No. 10/045,462 | Applicant(s) Ewen |
| | Examiner Ling-Siu Choi | Art Unit 1713 |
| -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -- | | |
| Period for Reply | | |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. | | |
| <ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). | | |
| Status | | |
| 1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>Nov 7, 2001</u> | | |
| 2a) <input type="checkbox"/> This action is FINAL. | | 2b) <input checked="" type="checkbox"/> This action is non-final. |
| 3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11; 453 O.G. 213. | | |
| Disposition of Claims | | |
| 4) <input checked="" type="checkbox"/> Claim(s) <u>37-78</u> is/are pending in the application. | | |
| 4a) Of the above, claim(s) <u>67-78</u> is/are withdrawn from consideration. | | |
| 5) <input type="checkbox"/> Claim(s) _____ is/are allowed. | | |
| 6) <input checked="" type="checkbox"/> Claim(s) <u>37-66</u> is/are rejected. | | |
| 7) <input type="checkbox"/> Claim(s) _____ is/are objected to. | | |
| 8) <input type="checkbox"/> Claims _____ are subject to restriction and/or election requirement. | | |
| Application Papers | | |
| 9) <input type="checkbox"/> The specification is objected to by the Examiner. | | |
| 10) <input type="checkbox"/> The drawing(s) filed on _____ is/are a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. <p style="margin-left: 20px;">Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).</p> | | |
| 11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. <p style="margin-left: 20px;">If approved, corrected drawings are required in reply to this Office action.</p> | | |
| 12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner. | | |
| Priority under 35 U.S.C. §§ 119 and 120 | | |
| 13) <input type="checkbox"/> Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). <p style="margin-left: 20px;">a) <input type="checkbox"/> All b) <input type="checkbox"/> Some* c) <input type="checkbox"/> None of:</p> <ol style="list-style-type: none"> 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). | | |
| <p style="margin-left: 20px;">*See the attached detailed Office action for a list of the certified copies not received.</p> | | |
| 14) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e). <p style="margin-left: 20px;">a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.</p> | | |
| 15) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. | | |
| Attachment(s) | | |
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | | |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | | |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ | | |
| 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ | | |
| 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) | | |
| 6) <input type="checkbox"/> Other: _____ | | |

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DETAILED ACTION

1. This Office Action is in response to the Preliminary Amendment filed March 23, 2002.

Claims 1-36 were canceled and claims 37-78 have been added.

2. This application is a continuation of US Application Serial No. 09/574,339 filed May 20, 2000, now US Patent No. 6,344,577 B1, which is a continuation of US Application Serial No. 08/812,364 filed March 5, 1997, now US Patent No. 6,117,957, which is a continuation of US Application Serial No. 07/696,408 filed May 5, 1991, now US Patent No. 5,846,896, which is a continuation of US Application Serial No. 07/317,089 filed February 28, 1989, now abandoned, which is a continuation of US Application Serial No. 07/034,472 filed April 3, 1987, now abandoned.

Election/Restriction

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 37-66, drawn to a polymer product, classified in class 526, subclass 348.
- II. Claims 67-78, drawn to a catalyst system, classified in class 502, subclass 152.

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4. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions relates to a polymer product and a catalyst system.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. William D. Jackson on January 27, 2003, a provisional election was made with traverse to prosecute the invention of Group 1, claims 37-66. Affirmation of this election must be made by applicant in replying to this Office action. Claims 67-78 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

8. **The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 37-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 37, line 12, the recitation " $0 \leq m \leq 4$ " causes indefiniteness because " $(C_5R'_m)$ is a substituted cyclopentadienyl group" and m cannot be 0.

Claim Rejections - 35 USC § 103

10. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

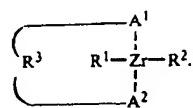
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made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 37-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (US 4,769,510) in view of Ewen (US 4,522,982).

The present invention relates to an isotactic polymer produced in the presence of a catalyst comprising a chiral, stereorigid metallocene in the form of $R''(C_5R')_2MeQ_p$, wherein R'' is a silicon hydrocarbyl radical acting as an interannular bridge between the two (C_5R') rings (summary of claim 37).

Kaminsky et al. disclose a (co)polymer of propylene, which have a **high degree of isotacticity**, the (co)polymer being obtained in the presence of a catalyst system composed of (a) a zirconium compound which is stereo-rigid and chiral and (b) a linear or cyclic aluminoxane (abstract), wherein the stereo-rigid, chiral zirconium compound is a π -linked, unsymmetrical, mononuclear or polynuclear compound which contains linear or cyclic hydrocarbon chains as bridges and corresponds to the following general structural formula:



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with A¹ and A² independently being a mononuclear or polynuclear, unsymmetrical hydrocarbon radical such as an indenyl group or a substituted cyclopentadienyl group; R³ being a linear C₁₋₄ hydrocarbon radical or a cyclic C₃₋₆ hydrocarbon radical; and R¹ and R² being halogen (col. 1, lines 63-67; col. 2, lines 1-19).

The difference between the present claims and the disclosure of Kaminsky et al. is the requirement of the specific metallocene compound to be used in the present claims.

Ewen discloses an isotactic-stereoblock polypropylene which is obtained in the presence of a catalyst comprising a metallocene in the general formula of (C₅R'_m)_pR''_s(C₅R'_m)MeQ_{3-p} or R''_s(C₅R'_m)₂MeQ', wherein (C₅R'_m) is a cyclopentadienyl or substituted cyclopentadienyl, each R' being hydrogen or a hydrocarbyl radical containing from 1 to 20 carbon atoms and, optionally, two adjacent carbon atoms being joined together to form a C₄₋₆ ring; R'' is a C₁₋₄ alkylene radical, a dialkyl germanium or silicone, or an alkyl phosphine or amine radical bridging two (C₅R'_m) rings; Q is a hydrocarbyl radical or halogen; Q' is a alkylidene radical having from 1 to about 20 carbon atoms; and Me is a group 4b, 5b, and 6b metal from the Periodic Table (col. 4, lines 46-68). A conclusion can be drawn that the use of a metallocene having silicon as a bridge is equivalent to or exchangeable with the use of a metallocene having alkylene radical as a bridge group. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a metallocene with silicone as the bridge to replace the metallocene having alkylene radical as the bridge group in the disclosure of Kaminsky et al. and thereby obtain the present invention.

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Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is (703)305-0887.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on (703)308-2450.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703)308-2351.



Ling -Siu Choi

February 10, 2003